

UTIN, I.A.; GOLUBEV, Yu.V.

Redesigning assemblies of pipe rolling mills. Metallurg 10 no.4:  
22-24 Ap '65. (MIRA 18:7)

1. Azerbaydzhanskiy truboprokatnyy zavod.

GOLUBEV-NOVOZHILOV, Yu.S. [translator]; ASHKENAZY, V.O., red.; GROZNOVA,  
V.I., red.; SMUROV, B.V., tekhn. red.

[Application of the theory of games in military affairs] Pri-  
menenie teorii igr v voennom dele; sbornik. Moskva, Izd-vo  
"Sovetskoe radio," 1961. 360 p. (MIRA 15:2)  
(Game theory) (Military art and science)

GOLUBEVA, A.; TROSHCHENKO, M., tehnolog

New developments in dry cleaning. Prom. koop. 12 no.8:11 Ag '58.  
(MIRA 11:9)

1. Glavnyy inzhener moskovskoy fabriki "Khimchistka" No.2 (for Golubeva)
2. Moskovskaya fabrika "Khimchistka" No.2 (for Troshchenko).  
(Cleaning and dyeing industry)

GOLUBEVA, A.

Spots disappear. Mest.prom.i khud.promys. 3 no.3:34 Mr '62.  
(MIRA 15:3)

1. Direktor Moskovskoy fabрики khimicheskoy chistki i krasheniya  
odezhdy No.2.

(Cleaning compounds)

GOLUBEVA, A.A. (Leningrad)

"The Use of the Method of Correlational Pleiads in the Detection of Connection  
between Physicochemical Properties of Substances and Their Toxicity"

Report presented at the 3rd Conference on the use of Mathematics in Biology,  
Leningrad University, 23-28 Jan. 1961.

(Primeneniye matematicheskikh Metodov v Biologii. II, Leningrad, 1963 pp 5-11)

GOLUBEVA, A., Nauchnyy sotrudnik

Protect yourself from brucellosis infection. Okhr. zdruia i soto.  
strakh. 6 no.8:28-29 Ag '63. (MIRA 16:10)

1. Institut epidemiologii i mikrobiologii im. Gamalei AMN SSSR.

GOLUBEVA, A.A.

[How to prevent brucellosis] Kak predupredit' zabolevania  
brutselлезom. Izd. 3-e. Moskva, Medgiz, 1954. 32 p. (MLBA 8:1 D)

VERSHILOVA, P.A.; GOLUBOVA, A.A.

General data on the epidemiological effectiveness of vaccination of humans against brucellosis with living vaccine from the N.F.Gamaleia Institute of Epidemiology and Microbiology of the Academy of Medical Science of the U.S.S.R. Zhur.mikrobiol.epid. i immun. 27 no.11: 64-69 N '56. (MLRA 10:1)

1. Iz Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei AMN SSSR

(BRUCELLOSIS, prevention and control,  
vacc. in Russia (Rus))



GOLUBEVA, A.A.

BRUCELLOSIS

"The Epidemiological Stage of Brucellosis and the Measures of its Control," by Professor P.A. Vershilova and A.A. Golubeva, Zdravookhraneniye Rossiyskoy Federatsii, No 3, March 1957, pp 11-16

In the USSR, there are all the three types of brucellosis; however, the authors state that both cattle and swine brucellosis is seldom transmitted to men. Thus, brucellosis of the sheep-goat type is most usual in the USSR, and its spreading area corresponds to sheep raising zones.

At the present time, brucellosis is recorded in 54 oblast's of the RSFSR. According to the data covering 9 months, 1956, the morbidity of brucellosis, as compared with the same period in 1955, has increased in some oblast's. The authors emphasize that the cause of such an increase is the insufficiency of vaccination and at the same time the carelessness of non-professionals in the work of livestock raising. However, the number of such non-professionals exceeds the number of professionals, say the authors. In the Chkalovskaya oblast' the number of non-professionals surpasses the number of the professional group by 34 times.

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BRUCELLOSIS

In the same oblast', the epidemiological anamnesis shows for a number of years that among those afflicted with brucellosis, 72.7 percent belong to the unprofessional group. The authors also mention the formation of new foci of infection., such as for example, in the Stavropol'skiy kray (1953 - 32%, 1954 - 30%, and in 1955 - 22% of the total suffering from brucellosis). According to the data of 1954, the morbidity in the new center of infection as compared with the general indicators of brucellosis in the corresponding districts constituted in the Kuybyshevskaya oblast' - 82.7 percent and in the Rostovskaya Oblast' - 62 percent. The authors point out the fact that a similar proportion still prevailed in a number of republics and oblast's as late as in 1956.

Finally, the increase in the morbidity of brucellosis has been caused by unseasonable vaccination, it being known that, as the authors write the inoculation made during the heat of the cohabitation of animals, is of small effectiveness. The authors also call to mind that, in case of brucellosis, the immunity is relative, and among the vaccinated persons 2 to 8 percent always fall ill. Because of such a

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BRUCELLOSIS

comparative immunity from brucellosis, the authors emphasize the necessity of measures so as to decrease the concentration of morbid agents in soil, litter and bedding for animals in the premises, etc.

The authors conclude that their epidemiological experience of many years has demonstrated all the complexity of fighting brucellosis. In order to be successful in this struggle, it is necessary to let not only the medical men participate but also to call on veterinary physicians and the Soviet and economical organizations.

Card 3/3

GOLUBEVA, A.A., LIXONOS, A.N., MARKARYAN, A.G., PILETSKAYA, Ye.M.

Incidence of brucellosis in Stavropol Territory. Zdrav.Ros.Fed.  
2 no.9:18-21 S'58 (MIRA 11:10)

1. Iz Instituta epidemiologii i mikrobiologii i Stavropol'skoy  
krayevoj sanitarno-epidemiologicheskoy stantsii.  
(STAVROPOL TERRITORY--BRUCELLOSIS)

VERSHILOVA, P.A.; GOLUBEVA, A.A.

Epicutaneous revaccination against brucellosis of workers in meat-packing plants and on livestock farms. Zhur.mikrobiol.epid. i immun. 29 no.3:58-62 Mr '58. (MIRA 11:4)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.  
(BRUCELLOSIS, prevention and control,  
epicutaneous revaccination of agricultural & meat-packing  
workers (Rus)  
(OCCUPATIONAL DISEASES, prevention and control,  
brucellosis, epicutaneous revaccination of agricultural  
& meat-packing workers (Rus)

VERSHILOVA, P.A., prof.; GOLUBEVA, A.A.; KAYTMAZOVA, Ye.I.;  
OSTROVSKAYA, N.N.; KHODZHAYEV, Sh.Kh.; VOSKRESENSKIY, B.V.,  
red.; LYUDKOVSKAYA, N.I., tekhn. red.

[Brucellosis; a handbook for physicians]Brutsellez; rukovod-  
stvo dlia vrachei. Moskva, Medgiz, 1961. 413 p. (MIRA 15:10)  
(BRUCELLOSIS)

VERSHILOVA, P. A.; GOLUBEVA, A. A.

"Prophylactic Vaccination of Human Beings and its Effect on morbidity among Workers on Sheep Farms."

Report presented at the meeting of the World Health Organization, Geneva, 3-9 Dec 63.

Gamaleya Institute of Epidemiology and Microbiology, AMS USSR.

VERSHILOVA, P.A.; GOLUBEVA, A.A.

Ways of a further reduction of the incidence of brucellosis  
among the population of the U.S.S.R. Vest. AMN SSSR 19 no.8:  
20-28 '64. (MIRA 18:7)

1. Institut epidemiologii i mikrobiologii imeni N.F. Gamalei  
AMN SSSR, Moskva.



GOLDBEVA, A.A.; CHELYADINOVA, Ye.B.

Distribution of brucellosis among the population of some  
European countries during the last decade (1951-1960). Vest.  
AMN SSSR 19 no.8:28-36 '64. (MIRA 18:7)

1. Institut epidemiologii i mikrobiologii imeni N.F. Gamaiei  
AMN SSSR, Moskva.

BASHKIN, N.Ya.; DMITRIYEVSKIY, V.S.; GOLUBEVA, A.A.; NECHAYEVA, Ye.M.

Smelting fluxed iron ore open-hearth briquets at the Komintern  
Plant. Metallurg 9 no.12:19-21 D '64. (MIRA 18:2)

GOLUBEVA, A.D.

ZHVIRBLYANSKIY, Yu.M., doktor tekhnicheskikh nauk, professor; GOLUBEVA, A.D.,  
inzhener-tekhnolog; KOSTENKO, A.S., inzhener-tekhnolog.

Two-boiling system with intermediate crystallization of green sirup.  
Trudy TSINS no.4:92-127 '56. (MLRA 10:5)  
(Sugar industry)

GOLUBEVA, A.D.

Effect of trisodium phosphate added to the 2nd carbonation  
juices upon the sugar losses in wash sirups. Sakh.prom. 34  
no.2:20-22 F '60. (MIRA 13:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharney  
promyshlennosti.  
(Sugar manufacture) (Phosphates)

PERTSEL', V.M.; ROSTRIPENKO, I.A.; GOLUBEVA, A.D.

Experience in using sodium phosphate for improving the  
boiling and centrifuging of massecuites at the Petrovskaya  
Sugar Factory. Sakh.prom. 34 no.3:10-12 Mr '78. '68  
(MIRA 13:6)

1. 2-y Petrovskiy sakhar'nyy zavod (for Pertsel', Rostripenko).
2. Tsentral'nyy nauchno-issledovatel'skiy institut sakhar'noy  
promyshlennosti (for Golubeva).  
(Petrovskoye (Kharkov Province)—Sugar manufacture)

KHARAKOZ, A.Ye.; GOLUBEVA, A.F.

Filter-press waste of sugar factories in Kirghizistan. Izv.AN  
Kir.SSR.Ser.est.i tekhnauk 2 no.3:75-78 '60. (MIRA 13:9)  
(Kirghizistan--Sugar--By-products)

Golubeva, A. G.

USSR/Chemical Technology. Chemical Products and I-22  
Their Application--Crude rubber, natural and  
synthetic. Vulcanized rubber.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9782

Author : Epshteyn, V. G. and Golubeva, A. G.  
Inst : Not given  
Title : The Accelerating Action of the Salts of Primary  
Amines During the Vulcanization of Rubbers

Orig Pub: Uch. zap. yaroslavsk. tekhnol. in-ta, 1956, Vol 1,  
175-186

Abstract: The monosubstituted salts of phthalic acid and  
primary aromatic amines (benzidine (I), p-anisidine  
(II),  $\alpha$ - and  $\beta$ -naphthalamines (III), and m-phenyl-  
enediamine (IV) act as supplementary accelerators  
during the vulcanization of mixtures of natural  
rubber with SKS-30A in the presence of carbon black.  
The polymerizing effectiveness of the salts in SKS-  
30A mixtures, measured by the increase in the modulus

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USSR/Chemical Technology. Chemical Products and I-22  
Their Application--Crude rubber, natural and  
synthetic. Vulcanized rubber.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957 9782

Abstract: of electricity, can be expressed in the following  
decreasing series: IV-I-II-III. The addition of  
salts of II increases the tensile strength to 30-  
40 kg/cm<sup>2</sup>; salts of III have no effect on the ten-  
sile strength. The tensile strength and elasticity  
of carbon black reinforced formulations based on  
natural rubber are improved by the addition of I  
and II; the latter have no effect on the elasticity  
and tensile strength of formulations in which fillers  
are not used, though the vulcanization temperature  
is raised. Salts of aromatic amines have no effect  
on SKB vulcanizates, their action being masked by  
the alkali. Amine salts in contrast to the free  
amines do not increase the tendency to premature  
vulcanization of mixtures of natural rubber and  
SKS-30A. The activating effect of the salts can

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GOLUBEVA, A. I.  
1400

Children's Hosp., Moscow Follow-up data on the mental state of children after tb meningitis treated with streptomycin *Pediatrics* 1950, 4 (34-38)  
Of 92 children who had recovered, 70 were normal in intelligence and behaviour. Ten of these had a relapse of meningitis. In 12 children the intelligence was unimpaired but the behaviour psychopathically disturbed. Ten were mentally deficient. In most of this last group the streptomycin treatment had been started late and the illness was complicated by paralyzes and tb lesions of other organs.

Salamun - Koper (XX, 7, 8, 15)

So: *Excerpta Medica*, Section VIII, Vol. 5, No. 4, April 1952

GOLUBEVA, A. I.

GOLUBEVA, A. I.- "Psychological Features of Appearance of Persistence in School Children." Moscow State Pedagogical Inst imeni V. I. Lenin, Moscow, 1955 (Dissertations for the Degree of Candidate of Pedagogical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955; Moscow

IL'YASHUK, Nikolay Davidovich; TROSHCHENKO, Mariana Aleksandrovna;  
GOLUBEVA, Aneta Mikhaylovna; ZLATOVEROV, B.S., red.;  
~~TRUSOV, N.S., tekhn. red.~~

[Technology of the chemical cleaning and dyeing of garments]  
Tekhnologiya khimicheskoi chistki i krasheniia odevzdy. Mo-  
slva. Gosbytizdat, 1963. 185 p. (MIRA 17:2)

BYKOV, A.N.; YERMOLAYEVA, Ye.A.; KIRILLOVA, T.M.; GOLUBEVA, A.N.

Colored capron fibers. Khim. volok. no.2:41-43 '64.  
(MIRA 17:5)

1. Ivanovskiy khimiko-tekhnologicheskii institut.

ROMANYUK, F.I.; PETROV, G.S. [deceased]; GOLUBEVA, A.N.; KARTASHEV, N.A.;  
SAZONOVA, V.M.; KAMENSKIY, I.V.; OGNEVA, N.Ye.

New methods for preventing the flow of reservoir waters into  
wells being exploited. Trudy VNII no.16:106-127 '58.

(MIRA 11:12)

(Oil field flooding)

GOLUBEVA, A. P.

25056. GOLUBEVA, A. P. OVliyanii Prirody Obmennoy Kislotnosti Pachv Na Rost Rasteniy. Trudy Yubileynoy Sessii, Posvyashch Stoletiyu So Dnya Rozhdeniya Dokuchayeva. M.-L., 1949, S. 280-88. -- Bibliogr: S. 288  
4. Agrotekhnika. Obshcheye Rasteniyevodstvo. Zashchita Rasteniy

SO: Letopis' No. 33, 1949

GOLUBEVA, A. P.

Dissertation: "Modification of the Acidity of Sod-Podsolic Soils as a Result of Liming." Cand Agr Sci, All-Union Sci Res Inst of Fertilizers, Agricultural Engineering and Soil Science, 10 Jun 54. (Vechernyaya Moskva, Moscow, 1 Jun 54)

SO: SUM 318, 23 Dec 1954





SOV/63-3-6-35/43

AUTHORS: Usmanova, N.F., Golubeva, A.V., Vansheydt, A.A.

TITLE: The Synthesis of Paraisopropylstyrene and the Properties of Its Polymers and Copolymers With Styrene (O sinteze paraizopropilstirola i svoystvakh yego polimerov i sopolimerov so stirolom)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1958, Vol III, Nr 6, pp 833-834 (USSR)

ABSTRACT: Simultaneous polymerization of styrene with paraisopropylstyrene was used for the production of polystyrenes with various contents of paraisopropyl groups in the aromatic nuclei. Polymers of isopropylstyrene were produced by the block and emulsion methods. Copolymerization of paraisopropylstyrene with styrene was carried out by the block method using 5 different relations of the monomers in the initial mixtures. The properties of the produced polymers and copolymers are shown in a table.

Card 1/2 There is 1 table and 5 references, 1 of which is Soviet, 3 English, and 1 German.

SOV/63-3-6-35/43

The Synthesis of Paraisopropylstyrene and the Properties of Its Polymers and Copolymers With Styrene

ASSOCIATION: Nauchno-issledovatel'skiy institut polimerizatsionnykh plast-mass (Scientific Research Institute of Polymer<sup>s</sup> Plastios)

SUBMITTED: April 7, 1958

Card 2/2

GOLUBEVA, A.V.; SIVOGRAKOVA, K.A.; LYANDZBERG, G.Ya.; GORODETSKAYA, R.A.

The MSN ternary copolymers. Biul.tekh.-ekon.inform. no.12:12  
'58. (MIRA 11:12)

(Plastics) (Polymers)

GOLUBEVA, A.V.; SIVOGRADOVA, K.A.; LYANDZBERG, G.Ya.; DOYNIKOVA, S.N.

The SN-28 copolymer of styrole with acrilonitrile. Biul.  
tekh.-ekon.inform. no.12:12-13 '58. (MIRA 11:12)  
(Polymers) (Acrilonitrile) (Styrene)

5(1)

AUTHOR:

Porzhitskiy, I. I.

TITLE:

Conference of the Workers of the Plastics Industry  
(Soveshchaniye rabotnikov promyshlennosti plastmass)

SOV/64-59-4-25/27

PERIODICAL:

Khimicheskaya promyshlennost', 1959, Nr 4, pp 88-89 (USSR)

ABSTRACT:

From June 9 to 14, the branch conference of the workers in the plastics industry was held in Moscow. It was organized by the following institutions: Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii (State Committee of the Council of Ministers of the USSR for Chemistry), TsK profsoyuza rabochikh neftyanoy i khimicheskoy promyshlennosti (Central Committee of the Trade Union of the Workers of the Petroleum- and Chemical Industry), Tsentralnoye pravleniye VKhO im. D. I. Mendeleyeva (Central Administration VKhO imeni D. I. Mendeleyev) and Sovety-narodnogo khozyaystva Moskovskogo oblastnogo i gorodskogo ekonomicheskikh rayonov, GNTK SSSR i RSFSR (Councils of the National Economy of the Moscow Oblast'- and Town Economic Districts) GNTK USSR and RSFSR. 1000 persons took part in the Conference. The tasks which were set the plastics industry by the XXI Congress of the CPSS and the May Plenum of the TsK CPSS 1958 were discussed. Beside the Plenary Session, sessions of four different sections

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Conference of the Workers of the Plastics Industry

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took place. In the session of the section for polymerization plastics and cellulose-ester 16 lectures were held. Among them the following: F. A. Oleynik (Kuskovskiy khimicheskiy zavod) (Kusko Chemical Works) - Research Work With Polyformaldehyde, A. V. Golubeva (NIIPP) - Styrene copolymers, N. S. Lebedov (Yerevanskiy zavod im. S. M. Kirova) (Yerevan Works imeni S. M. Kirov) - Production of Vinyl Chloride With Mercury-free Catalysts. In the section of condensation plastics P. S. Ivanov (Nizhne-Tagil'skiy zavod plastmass) (Nizhniy Tagil Works for Plastics) spoke on "The Technology of the Phenol Formaldehyde Resins According to the Continuous Method". In the session of the section glass plastics 12 lectures and 9 communications of research institutes concerning the results obtained at the production of glass plastics were delivered. The following lectures were held in the section for final processing of plastics: K. S. Strel'tsov (Model'no-konstruktorskiye masterskiye Leningradskogo sovnarkhoza) (Model Constructing Workshop of the Leningrad Sovnarkhoz) "On the Processing of Thermo-plastics to Final Products According to the Pneumatic Method", Z. P. Mitskevich (Kiyevskiy ekonomicheskiy rayon) (Kiyev Economic Rayon), "On Manufacturing Complicated Final Products of

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Polyamides by Casting at Low Pressure Directly From the Fusion Kettle Without the Use of Casting Implements", G. V. Struminskiy (NIIPM) "On the Production and Final Processing of Transparent Soft and Hard Polyvinyl Chloride Mixtures". The congress delegates criticized the work of the Upravleniye plasticheskikh mass i sinteticheskikh smol Gosudarstvennogo komiteta Soveta Ministrov SSSR po khimii (Administration for Plastic Masses and Synthetic Resins of the State Committee of the Council of Ministers of the USSR for Chemistry), and some institutes because of insufficient coordination. Furthermore the insufficient supply with projecting plans of the plastics industry by the Giproplast was criticized. The unsatisfactory development of some Districts of National Economy (Kemerov, Leningrad, Armenia, et al) was pointed out. The conference supported the decision of the branch conference of the nitrogen industry concerning the introduction of a holiday to be called "Day of Chemists".

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507/4981

International symposium on macromolecular chemistry, Moscow, 1966

**Nitrobenzoyl** stipulation po mal'tomol'nykh i tsel' SSSR, Moskva, 14-15 Iyunya 1960 g.; doklady i referaty. Stetskiy L. I. (International Symposium on Macromolecular Chemistry held in Moscow, June 14-15, 1960) Papers and Reports. Section I.) [Moscow, Ind-to Ak SSSR, 1960] 316 p., 5,500 copies printed.

Sponsoring Agency: The International Union of Pure and Applied Chemistry,  
Commission on Macromolecular Chemistry

**Tech. Ed.: T. V. Polyakova.**

**PURPOSE:** This collection of articles is intended for chemists and researchers interested in macromolecular chemistry.

OVERVIEW. This is Section I of a multi-volume work containing scientific papers on macromolecular chemistry in Moscow. The material includes data on the synthesis and properties of polymers, and on the processes of polymerization, copolymerization, polycondensation, and polycombining. Each text is presented in full or summarized in French, English, and Russian. There are 47 papers, 26 of which were presented by Soviet, Russian, and East European, and 21 by non-Soviet scientists. No personalities are mentioned. References accompany individual articles.

Carbonium, I. A.; M. I. Zhurav, D. T. Kozlovskii, S. I. Frolovskaya, and  
B. Kostova (USSR). Polycondensation of the  $\alpha$ -keto acids Esters in  
the Presence of Carbon Dioxide

215

2500-2510 (Hemery): On the behavior of mixed furfural-formaldehyde  
thermoelastic plastics

218

1. Author, N. S., and L. A. Kozlov (USSR). On the Heterogeneous Method of the Polycondensation

228

Kubitz, M. V., V. J. Norwood, and S. S. Kinsley (MCS). On Some Reactions Involving the Interfacial Polycondensation of Acid Chlorides of Dicarboxylic Acids and Diamines in the Process of Fiber Formation.

257

**Abstracts by L. Bessaleu (Romania). Synthesis of Polyureids by**

245

Platynikov, A. A., G. A. Lerkovich, and I. A. Pytnina (USSR). The Catalytic Action of Some Metallic Compounds on the Formation of Polyurethanes

295

Lenz, P., and B. Chremsek (Czechoslovakia). Some Problems of Polymerization in a Suspension

3

of  $\alpha$ -methylstyrene and vinyl naphthalene with other vinyl compounds

282

### The Polymerization of Vinyl Chloride - Chain Transfer Reactions in

306

Polymers (Pechonoloxene). Study of the Kinetics of Dispersion Polymerization of p-Chlorostyrene in a Column Containing an Aqueous Solution With a Linear Density Gradient.

3050

Abstract, I.; Katayama, and Ta. Polacek (Czechoslovakia). Thermal Aging of Polychloroprene

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**AVAILABLE: Library of Congress**

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34/05/2020  
9:29:51

27

# Orlando Polymers

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Kotom, H., I. N. Kiseleva, and P. S. Florinsky (USSR). The Effect of Chemical Structure on the Polymerization Activity of the Unsaturated Cyanoacetallic Compounds.

**16.**

TOY, KENJI; ET AL., M. A.  
(USSR). Cooperative Processes in the Polycondensa-  
tion of Biopolymers

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49



S/191/60/000/000/001/014  
B004/B056

AUTHORS: Colubeva, A. V., Meymark, O. M. (Deceased), Usmanova, N.F.,  
Sivograkova, K. A., Bezborodko, G. L., Meyerzon, A. A.

TITLE: Synthesis of Acenaphthylene, Its Polymers, and Its Copoly-  
mers With Other Monomers

PERIODICAL: Plasticheskiye massy, 1960, No. 8, pp. 3-6

TEXT: In the introduction, the authors give a survey of published data on the synthesis, polymerization, and copolymerization of acenaphthylene which, with the exception of a paper by V. S. Titov (Ref. 2), is based upon western papers. The authors then give a report on their experiments. The synthesis proceeded from commercial acenaphthene of the type 4MTY No. 4850-54 (ChMTU No. 4850-54), and took place in the vaporous phase. As catalysts, styrene contact was used as well as the usual catalyst used for the dehydrogenation of butane. For the purpose of analyzing the reaction products, a new method developed by V. A. Balandina and Z. F. Davydova was employed: Iodination of the double bond in the presence of mercurous chloride and HCl in an alcoholic medium. This method gave the same results

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Synthesis of Acenaphthylene, Its Polymers,  
and Its Copolymers With Other Monomers

S/191/60/000/008/001/014  
B004/B056

as hydrogenation on palladium and platinum black according to G. L. Bezborodko. A maximum of concentration (up to 98.5%) and yield (up to 88%) was obtained between 640° and 650°C (Fig. 1). Fig. 2 gives the concentration of acenaphthylene as a function of the feeding rate of acenaphthene in g/l catalyst. At 125 g/l the concentration was 99%. Only a feeding rate from 320 to 330 g/l is considered to be profitable. An addition of water vapor offered no advantages. The block polymerization of acenaphthylene was carried out in the presence of benzoyl peroxide, the emulsion polymerization in the presence of potassium persulfate and sulfanol. Polymers with molecular weights of 119,000 and 160,000 were obtained, which, however, could not be processed because of their brittleness. The copolymerization of acenaphthylene with styrene was carried out under the same conditions as the polymerization. The acenaphthylene content was varied between 10 and 50%. The physical, mechanical, and electrical properties are given in Table 1. Fig. 3 shows that the thermal stability of the copolymer increased with an increasing content of acenaphthylene. In Fig. 4, the molecular weight and the intrinsic viscosity of the copolymer are represented as a function of the acenaphthylene content. The copolymer with a ratio between acenaphthylene : styrene = 20 : 80, which could be processed by pressing and casting under pressure was found to have

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Synthesis of Acenaphthylene, Its Polymers,  
and Its Copolymers With Other Monomers

S/191/60/000/008/001/014  
B004/B056

the best properties. Table 2 gives a comparison between the thermomechanical and electrical properties of the copolymer and those of the polystyrene. The dielectric properties are as good as those of polystyrene, and its thermal stability is higher by about 30°C. There are 4 figures, 2 tables, and 24 references: 2 Soviet, 9 US, 6 British, and 7 German.

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S/191/60/000/012/002/016  
B020/B066

11.2210 also 2209

AUTHORS: Golubeva, A. V., Usmanova, N. F., Sivograkova, K. A.

TITLE: Copolymers of  $\alpha$ -Methyl Styrene

PERIODICAL: Plasticheskiye massy, 1960, No. 12, pp. 4 - 6

TEXT: The present paper studies the possibility of copolymerizing  $\alpha$ -methyl styrene with other polar and nonpolar vinyl compounds according to a radical mechanism. The properties of the copolymers obtained were investigated. For the copolymerization with  $\alpha$ -methyl styrene, styrene, 2,5-dichloro styrene, methyl methacrylate, and acrylonitrile were used. Copolymerization was carried out by means of the emulsion method in the presence of an initiator (potassium persulfate) and of an emulsifier (Sulfanole). The monomer concentration ranged between 99.5 and 99.8%, the ratio of the hydrocarbon phase to the aqueous phase varied between 1:3 and 1:5, the pH of the medium was 7.8 - 8. The reaction was carried out in the stream of an inert gas (nitrogen) at 75 - 80°C. The composition of  $\alpha$ -methyl styrene - styrene copolymers was determined by means of the infrared spectroscopic method devised by T. A. Speranskaya, that of the

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Copolymers of  $\alpha$ -Methyl StyreneS/191/60/000/012/002/016  
B020/B066

remaining copolymers chemically. When increasing the  $\alpha$ -methyl styrene content in the initial monomer mixture, copolymerization is retarded, and the finite conversion degree drops (Fig.1). In this connection, also the intrinsic viscosity of copolymers decreases (Fig.2). The heat resistance of copolymers drops with increasing  $\alpha$ -methyl styrene content (Fig.3). In the copolymerization of three monomers -  $\alpha$ -methyl styrene, methyl methacrylate and acrylonitrile - in the ratio of 35.70:50.65:13.65 mole%, the heat resistance increases considerably as compared with that of the ternary MCH(MSN) copolymer which contains styrene instead of  $\alpha$ -methyl styrene. The copolymers of  $\alpha$ -methyl styrene with styrene or methyl methacrylate (ratio 1:2.5 moles) exhibited satisfactory mechanical properties and higher heat resistance than polystyrene and polymethyl methacrylate. The dielectric properties were similar to those of polystyrene. The authors also studied the conditions of copolymerization of  $\alpha$ -methyl styrene with styrene, methyl methacrylate and acrylonitrile by the suspension method. Polyvinyl alcohol and Solvar (partly acetylated polyvinyl alcohol) were used as stabilizers for the suspension in quantities of 0.1 - 1%, and benzoyl peroxide, diisobutyric acid azo-dinitrile and benzoyl peroxide mixed with tert.-butyl peroxide (in a

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Copolymers of  $\alpha$ -Methyl Styrene

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B020/B066

ratio of 1:1) in quantities of 0.5 - 1% as initiators. The experiments were carried out in the stream of an inert gas at 70 - 90°C. Under these conditions, copolymerization of  $\alpha$ -methyl styrene with styrene, as well as with acrylonitrile, proceeded slowly. Previously, a bulk polymerization of the monomers had to be carried out at 80°C up to a conversion of 35%, and a suspension polymerization of the pre-polymer obtained. Even when using this combined block-suspension polymerization, the degree of conversion of the monomers was only 96 - 97%. The dimensional stability under heat of the copolymers according to Vicat was only 115°C, and they were very brittle. Nor was the above stability of the ternary copolymers obtained under the same conditions any higher. The bulk copolymerization of  $\alpha$ -methyl styrene with styrene, acrylonitrile and methyl methacrylate at different ratios of the monomers (from 0.25 to 1 mole of  $\alpha$ -methyl styrene in the initial monomer mixture), with benzoyl peroxide, diisobutyric acid azo-dinitrile and cobalt naphthenate, possibly with a mixture of benzoyl peroxide with tert.-butyl peroxide (at a ratio of 1:1) as initiators, at 70 - 200°C for 200 hours in glass ampulae which had been previously deaerated, yielded hard, transparent, colorless or - in the case of copolymerization with acrylonitrile - yellow polymers with a heat

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8764<sup>3</sup>.

Copolymers of  $\alpha$ -Methyl Styrene

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resistance according to Vicat of about 120°C. There are 3 figures,  
1 table, and 7 references: 1 Soviet, 4 US, 1 Canadian, and 1 British.

X

Card 4/4

LYANDZBERG, German Yakovlevich; BAZLOVA, Tamara Petrovna; BUTYRINA, Natal'ya Petrovna; GOLUBEVA, Anna Vasil'yevna; PECHENKIN, Aleksandr Leont'yevich; SIVOGHAKOVA, Klavdiya Andreyevna; AL'PERIN, G.R., red.; FREGER, D.P., red. izd-va; GVIRTIS, V.L., tekhn. red.

[New L-PT acrylic plastics for pressure molding and extrusion]  
Novyi akriloplast L-PT dlia lit'ia pod davleniem i ekstruzii.  
Leningrad, 1961. 21 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriya: Sinteticheskie materialy, no.9) (MIRA 14:12)

(Plastics)



89341

S/191/61/000/001/001/015  
B101/B205

15.8104

AUTHORS: Golubeva, A. V., Nosayev, G. A., Usmanova, N. F.,  
Yeremina, Ye. N., Sivograkova, K. A.

TITLE: A suspension method for obtaining high-molecular polystyrene

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 3-7

TEXT: In view of the great commercial advantages of suspension polymerization, the authors studied the most favorable conditions for obtaining high-molecular polystyrene with good physical, mechanical, and dielectric properties. In doing so, they applied the method of suspension polymerization. A study has been made of the influence of initiators and their mixtures, as well as of stabilizers and reaction temperature. The various initiators were synthesized by alkylation or acylation of  $H_2O_2$  or  $Na_2O_2$ . IX

First, polymerization was done in a nitrogen atmosphere at 20-95°C with a monomer-to-water ratio of 1:3 or 1:6, and with 0.5-2% initiator referred to styrene. The authors aimed at obtaining a granulated polymer. Results are summarized in Table 1:

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A suspension method for...

Initiator	polymerization temperature °C	time, hr	form of product	molecu- lar weight
tert-butyl hydroperoxide	80;90	12-18	emulsion	55,000
cyclohexanone peroxide	80;90	10;16	flocks	
tert-butyl peroxide	90	12-18	emulsion	55,000
acetone peroxide	80	18	emulsion	
methyl-ethyl ketone peroxide	80	2-24	powder	110,000
dimethyl peroxy-dicarbonate	20-90	2-24	emulsion	
tert-butyl perbenzoate	90	8-10	granules	108,000
tert-butyl peracetate	90	12	granules	
tert-butyl permethacrylate	90	12	flocks	48,000
caprylyl peroxide	70-90	8;7	granules	
lauryl peroxide	70	9	granules	45,000
methacrylyl peroxide	90	6;14	emulsion	
acetyl peroxide	90	6;12	powder	40,000
p-chlorobenzoyl peroxide	90	7	granules	
cinnamoyl peroxide	90	8	trimer	35,000
peracetic acid	90	8	emulsion	
benzoyl peroxide	90	8	granules	57,000
azoisobutyric acid dinitrile	90	7	granules	

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B101/B205

A suspension method for...

The effect of various compositions of the initiators at 90°C in nitrogen, with Solvar serving as a stabilizer, is illustrated in Table 2:

Composition of initiators I	ratio	polymerization time, hr	form	molecular weight
benzoyl peroxide + isopropyl acetone peroxide	1:1	7	granules	33,500
benzoyl peroxide + cinnamoyl per- oxide	4:1	3	granules	insoluble
benzoyl peroxide + di-tert-butyl perterephthalate	1:1	10	granules	41,000
benzoyl peroxide + tert-butyl perbenzoate	1:10	10	granules	84,700
benzoyl peroxide + propane di- tert-butyl peroxide	1:1	6	granules	53,800
tert-butyl peroxide + benzoyl peroxide	1:1	12	granules	90,000
tert-butyl peroxide + propane di- tert-butyl peroxide	1:1	12	emulsion	
tert-butyl peroxide + cinnamoyl peroxide	4:1	12	emulsion	

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A suspension method for...

Continuation of Table 2:

tert-butyl perbenzoate + lauryl peroxide	1:1	8	granules	86,700
tert-butyl perbenzoate + cinnamoyl peroxide	24:1	8	powder	116,000
tert-butyl perbenzoate + lauryl peroxide	4:1	7	granules	132,000
tert-butyl perbenzoate + tert-butyl peroxide	4:1	9	granules	80,900
tert-butyl perbenzoate + propane-di-tert-butyl peroxide	1:1	7	granules	91,900
tert-butyl perbenzoate + dimethyl peroxy-dicarbonate	1:1	12	emulsion	
tert-butyl perbenzoate + caprylyl peroxide	4:1	8	granules	90,000
tert-butyl hydroperoxide + propane-di-tert-butyl peroxide	1:1	12	emulsion	

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A suspension method for...

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B101/B205

Experiments with benzoyl peroxide (I), tert-butyl peroxide (II), and tert-butyl perbenzoate (III) were made in autoclaves (50,200,600 l capacity), using Solvar as a stabilizer (partly saponified polyvinyl acetate with 12-13% acetate groups). Monomer-to-water ratio = 1:2; temperature: 80-95°C or 80-130°C. These experiments confirmed the results of laboratory tests. Granulated polystyrenes with a molecular weight of 100,000-120,000 were obtained. At 130°C the reaction took place within 9-10 hr, the polymer containing only 0.3% of the initial monomer. A comparison between these styrenes and those obtained by block polymerization is presented in Table 3:

Property	suspension polystyrene obtained with:			block polystyrene
	0.5% I	0.3% I + II	1.5% III	
molecular weight	35,000	90,000-100,000	110,000-120,000	90,000
thermal stability according to Vicat	99	98	100	96.5
according to Martens	79	79	80	76
resilience, kg·cm/cm <sup>2</sup>	12	22	18	18
bending strength, kg/cm <sup>2</sup>	750	1050	950	1,100
tan δ at 10 <sup>6</sup> cps	0.0003	0.0003	0.0005	0.0003
ε at 10 <sup>6</sup> cps	2.5	2.5	2.5	2.5
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Suspension polymerization of styrene in the presence of polystyrene was studied in addition. Ordinary styrene and styrene thermally polymerized up to 30% were further polymerized in an aqueous suspension. Using I and II in a ratio of 1:1 as initiators, a polystyrene with a molecular weight of 140,000 was obtained. Polyvinyl alcohol, Solvar, sodium polymethacrylate, copolymer from methyl methacrylate and methacrylic acid, gelatine,  $\text{Ca}_3(\text{PO}_4)_2$ ,  $\text{Mg}(\text{OH})_2$ , talc, etc. were tested for stabilization. 0.5% copolymer from methyl methacrylate and methacrylic acid, or 0.1% Solvar were found to be the most favorable stabilizers. The polystyrene fraction with a particle size of 0.5-0.1 mm amounted to 60-80% of the total amount of the polymer. There are 3 tables and 10 references: 2 Soviet-bloc and 8 non-Soviet-bloc. ✓

Card 6/6

USMANOVA, N.F.; GOLUBEVA, A.V.; VANSHEYDT, A.A.; YEREMINA, Ye.N.

Synthesis and properties of polymers and copolymers of  $\alpha$ - and  $\beta$ -vinyl naphthalenes. Report 1: Synthesis of monovinyl naphthalenes.  
Plast.massy no.3:3-6 '61. (MIRA 14:3)  
(Naphthalene)

21141

S/191/61/000/004/002/009  
B110/B208

158104

2209, 1372

AUTHORS: Usmanova, N. F., Golubeva, A. V., Vansheydt, A. A.,  
Sivograkova, K. A.

TITLE: Synthesis and properties of  $\alpha$ - and  $\beta$ -vinyl naphthalenes.  
Report II. Polymers of vinyl naphthalenes and their  
copolymers with styrene

PERIODICAL: Plasticheskiye massy, no. 4, 1961, 6-8

TEXT: Polymerization of monovinyl naphthalenes, and the properties of  
polymers that are more resistant to heat than polystyrene are as yet little  
known. P. P. Shorygin, I. V. Shorygina, Yu. S. Zal'kind, and S. A. Zonis  
found that  $\alpha$ -vinyl naphthalene forms transparent, brittle polymers softening  
at 100-110°C with a molecular weight of approximately 5000. The poly- $\alpha$ -  
vinyl naphthalene obtained by S. Loshaek was also brittle and low-molecular.  
The  $\alpha$ -vinyl naphthalene copolymerized by M. M. Koton with styrene and  
acrylic esters had also a low mechanical strength. The copolymers of  
 $\beta$ -vinyl naphthalene with styrene, methyl methacrylate, and methyl acrylate,  
studied by C. C. Price et al., had molecular weights of 10000-40000. The

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S/191/61/000/004/002/009  
B110/B208

Synthesis and properties of...

authors had previously shown (Ref. 9: N. F. Ustanova et al. Plast massy no. 3 (1961)) that  $\alpha$ - and  $\beta$ -vinyl naphthalenes may be prepared separately in good yields and simply from naphthalene.  $\alpha$ - and  $\beta$ -vinyl naphthalenes (99.6-99.8 %) were polymerized by the block (I) and emulsion methods (II). In the case of (I), polymerization was performed in the presence of 0.5 % benzoyl peroxide for 100 hr in vacuo at temperatures gradually increasing from 60 to 130°C up to 98 % conversion. The polymers obtained in a yield of 97 % were reprecipitated from methanol dissolved in benzene in order to remove the monomers. In the case of (II), polymerization was carried out in the presence of potassium persulfate and sodium oleate in an N<sub>2</sub> atmosphere. The polymer was coagulated with 1 % formic acid and separated in the form of powder with a yield of 97-99 %. The  $\alpha$ - and  $\beta$ -polymers thus prepared softened at 160°C, then formed a solid, transparent mass, and dissolved completely in benzene, toluene, and dichloro-ethane. The  $\alpha$ -polymer, above all, is brittle than polystyrene, owing to a greater rigidity of its chains. To increase the mechanical strength, styrene links are to be incorporated into the molecule by copolymerization. This was also accomplished by block and emulsion polymerizations at different ratios of the monomers (10-90 %). Intrinsic viscosity, average molecular

X

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S/191/61/000/004/002/009  
B110/B208

## Synthesis and properties of...

weight, softening point, specific impact strength, and dielectric properties ( $\tan \delta$  and  $\epsilon$  at  $10^6$  ops and  $20^\circ\text{C}$ ) were determined.  $\epsilon$  had a constant value of 2.6, and  $\tan \delta$  increased with increasing naphthalene content from  $2 \cdot 10^{-4}$  to  $5 \cdot 10^{-4}$ . Intrinsic viscosity and molecular weight of the copolymer of  $\alpha$ -vinyl naphthalene (Figs. 1 and 2) decreased fivefold by substituting naphthalene links for 40 % of the benzene links. In the  $\beta$ -compound, the decrease takes place more slowly, as its copolymers are high-molecular. The molecular weight of  $\beta$ -vinyl naphthalene copolymers with 40 (I) to 80 % (II) naphthalene content was 108000 (I) - 96000 (II), while that of  $\alpha$ -vinyl naphthalene copolymers was only 15000 (I) - 10000 (II). The mechanical strength of a  $\beta$ -copolymer with 40 %  $\beta$ -vinyl naphthalene is sufficient for practical application. The heat resistance of  $\alpha$ - and  $\beta$ -copolymers linearly increases from 113 to  $150^\circ\text{C}$  on transition from polystyrene to polyvinyl naphthalene. The emulsion method is especially suited for the preparation of copolymers with 30 %  $\beta$ -vinyl naphthalene of optimum molecular weight and mechanical strength. I. A. Arbuzova is mentioned. There are 6 figures, 1 table, and 9 references: 5 Soviet-bloc and 4 non-Soviet-bloc. The 3 references to English-language publications read as follows: H. Mark, Chem. Eng. News, 27, 138 (1949); S. Loshaek,

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21141

S/191/61/000/004/002/009  
B110/B208

Synthesis and properties of...

E. Broderick, J. Polymer Sci., 39, 223 (1959); C. C. Price et al.  
J. Polymer Sci., 11, 575 (1953).

Legend to Table: Properties of  
polymers of  $\alpha$ - and  $\beta$ -vinyl  
naphthalenes. 1) Indices;  
2) molecular weight; 3) degree  
of polymerization; 4) specific  
impact strength, kg·cm/cm<sup>2</sup>;  
5) heat resistance according  
to Vicat, °C; 6)  $\tan \delta$  at  
10<sup>6</sup> cps; 7)  $\epsilon$  at 10<sup>6</sup> cps;  
8) method of polymerization;  
9) block method; 10) emulsion  
method; 11) very brittle; 12)  
note: the study was performed  
with pressed samples.

① Показатель	② Способ полимеризации			
	⑨ блокный		⑩ эмульсионный	
	а	б	а	б
2 Молекулярный вес . . . .	9000	66000	25000	115000
3 Степень полимеризации . .	58	428	160	744
4 Удельная ударная вяз- кость, кг·см/см <sup>2</sup> . . . .	11 Очень хрупкий	1,6	1	2,5
5 Теплостойкость по Вика, °C	—	160,5	160	162
6 $\tan \delta$ при 10 <sup>6</sup> герц . . . .	—	4-5·10 <sup>-4</sup>	3·10 <sup>-4</sup>	3-4·10 <sup>-4</sup>
7 $\epsilon$ при 10 <sup>6</sup> герц . . . .	—	2,6	—	2,6

12. Примечание. Испытания проводились на прессованных образцах.

Card 4/8

USMANOVA, N.F.; GOLUBEVA, A.V.; VANSHEYDT, A.A.; SIVOGRKOVA, K.A.;  
DOYNIKOVA, S.N.

Synthesis and properties of polymers and copolymers of  $\alpha$ - and  
 $\beta$ -vinyl-naphthalenes. Report No.3: Copolymerization of  $\beta$ -vinyl-  
naphthalene with styrene and plastics derived from them. Plast.  
massy no.5:3-6 '61. (MIRA 14:4)  
(Naphthalene) (Plastics)

8/191/63/000/002/002/019  
B101/B186

AUTHORS: Golubeva, A. V., Katskov, O. L. (Deceased), Meymark, O. M. (Deceased), Bezborodko, O. L., Kon, A. V., Usanova, M. F., Doynikova, S. M.

TITLE: Synthesis and polymerization of styrene derivatives. Synthesis of chloro derivatives of styrene

PERIODICAL: Plastikheskiye massy, no. 2, 1963, 3-6

TEXT: To produce polymers with higher heat resistance than styrene the synthesis of 2,5-dichloro styrene and monochloro styrene was studied, these being intended for use as monomers in the production of new polymers. The initial substance for the synthesis of 2,5-dichloro styrene was p-dichloro benzene ethylated by ethylene or by ethyl chloride, in the presence of  $AlCl_3$  to make ethyl-p-dichloro benzene. The synthesis of 2,5-dichloro styrene was attempted in several ways: (1) Chlorination of ethyl-p-dichloro benzene to  $\alpha$ -chloro-ethyl-p-dichloro benzene, saponification with  $Na_2CO_3$  to p-dichloro-phenyl methyl carbinol, and dehydration with  $Al_2O_3$  to

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Synthesis and polymerization ...

S/191/63/000/002/002/019  
B101/B106

2,5-dichloro styrene. This method has the disadvantages that  $\alpha$ -chloro-ethyl-p-dichloro benzene decomposes on rectification, that two carbinol modifications are obtained, and that the yield is only 25-27%. (2) Dehydrochlorination of  $\alpha$ -chloro-ethyl-p-dichloro benzene with  $\text{BaSO}_4$  or  $\text{CaSO}_4$  at 350-400°C yielded 65-80% 2,5-dichloro styrene, but the activity of the catalyst decreased rapidly so that frequent regeneration in  $\text{O}_2$  at 500°C was necessary. (3) Dehydrogenation of ethyl-p-dichloro benzene with styrene contact catalysts at 600-620°C, 10-12 mm Hg, gave a 39% yield, but at these temperatures HCl was formed as the result of pyrolysis. (4) Acylation of p-dichloro benzene with acetyl chloride, acetic anhydride, or acetic acid according to Friedel-Crafts to p-dichloro acetophenone, reduction of the phenone with aluminum isopropylate to p-dichloro-phenyl methyl carbinol, and dehydration with  $\text{Al}_2\text{O}_3$  gave a 55-60% yield of 2,5-dichloro styrene. ✓

The dehydration was studied at various temperatures in  $\text{CO}_2$  and  $\text{N}_2$  atmospheres. The reaction products were stable up to 450°C and HCl formed only at higher temperatures. To synthesize monochloro styrene, chloro benzene was acetylated with acetyl chloride or acetic anhydride without a solvent

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Synthesis and polymerisation ...

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B101/B186

to p-chloro acetophenone, then reduced with aluminum isopropylate in isopropanol to p-chloro-phenyl methyl carbinol, and dehydrated with molten  $\text{KHSO}_4$  or with  $\text{Al}_2\text{O}_3$  to p-chloro styrene. The quantitative reduction of the ketone succeeded with 50-60% aluminum isopropylate. There are 2 figures.

Card 3/3.

S/191/63/000/004/001/015  
3101/3'86

AUTHORS: Golubeva, A. V., Katstov, C. L. (Deceased), Bezborodko, G. L.,  
Kon, A. V., Usmanova, N. F., Deynikova, S. N.

TITLE: Synthesis and polymerization of styrene derivatives. Polymers  
of p-chlorostyrene and 2,5-dichlorostyrene

PERIODICAL: Plasticheskiy massy, no. 4, 1963, 4 - 6

TEXT: Mass polymers were produced from styrene, p-chlorostyrene, and 2,5-  
dichlorostyrene under equal conditions. Their physico-mechanical and  
dielectric properties were compared. Results:

	Poly-p-chloro- styrene	Poly-2,5-di- chlorostyrene	Polystyrene
average-number molecular weight	340.000	810.000	400.000
impact strength, kg/cm <sup>2</sup>	14	6-9	18-20
bending strength, kg/cm <sup>2</sup>	900	600	1100
Vicat heat resistance, °C	140-142	150	110
tanδ at 10 <sup>6</sup> cps	0.0004-0.0005	0.0002-0.0003	0.0002
breaking voltage kv/mm	25	28	20-22

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Synthesis and polymerization of...

S/191/63/000/004/001/015  
B101/B186

Poly-2,5-dichlorostyrene was stable to a 7-day action of 96%  $H_2SO_4$ , 34%  $HCl$ , 65%  $HNO_3$ , 99%  $CH_3COOH$  at room temperature, whereas poly-p-chlorostyrene cracked at these concentrations. Both chlorine derivatives were stable to 60%  $H_3PO_4$ , 85%  $HCOOH$ , 50%  $NaOH$ , oil, glycerol, and gasoline under the above conditions. Optimum conditions for molding, compression molding, and extruding polymers were studied. Poly-2,5-dichlorostyrene was molded at 180 - 190°C, 250 - 300 kg/cm<sup>2</sup>, or at 260 - 265°C, 1200 - 1500 kg/cm<sup>2</sup>. For poly-p-chlorostyrene, the temperature could be decreased to 175 - 180°C, and 250 - 260°C, respectively. Heat treatment of the pressed samples when kept in a thermostat at 90 - 100°C for several hours, is essential to eliminate cracks. Higher heat resistance makes chlorostyrene derivatives superior to styrene. Their mechanical strength, however, is lower than that of styrene. The only disadvantage of poly-2,5-dichlorostyrene is that  $HCl$  is liberated above 200°C. There are 4 figures and 2 tables.

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PPF(c)/EWP(j)/BDS/ENT(m)/ES(s)-2 APPY/ASD/ESD-3/

APPROX. 10-11-63  
ACCESSION NR: AP3003300

S/0191/63/000/ 007/0008/0009

AUTHORS: Golubeva, A. V.; Tolstikova, Z. D.; Sivograkova, K. A.;  
Bezborodko, G. L.

79  
76

TITLE: The synthesis and polymerization of styrole derivatives. Synthesis and polymerization of methylstyrole derivatives

SOURCE: Plasticheskiye massy\*, no. 7, 1963, 8-9

TOPIC TAGS: methylstyrole, dimethylstyrole, synthesis, polymerization, bromo-toluene, magnesium, methylphenol, paraxylene

ABSTRACT: o-methylstyrole and 2,5-dimethylstyrole were synthesized and studied in detail. o-methylstyrole was synthesized from o-bromotoluene using organic magnesium compound and a subsequent oxidation with ethylene oxide, followed by hydrolysis of the obtained o-methylphenol alcohol over KOH. 2,5-dimethylstyrole was synthesized from paraxylene by the method of 2,5-dimethylacetophenon. The polymers of o-methylstyrole and 2,5-dimethylstyrole were obtained by block and emulsion methods. Their physico-mechanical and dielectric properties were studied. It was determined that o-methylstyrole and 2,5-dimethylstyrole polymers possess

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L 13366-63

ACCESSION NR: AP3003300

dielectric properties equal to those of polystyrole. However, they possess higher thermal stability (112-125C) and a high electric rigidity (34-37 kv/mm). These factors distinguish them not only from polystyrole, but also from the polymers of chloro-derivatives of styrole. The stability of dielectric properties of the polymers have been established for a wide temperature interval of 20 to 140C. The molecular weight was determined by the osmotic method. "The authors are grateful to L. N. Veselovskaya for her determination of molecular weights." Orig. art. has: 3 tables. 2

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: MA

NO REF SOV: 003

OTHER: 006

Card 2/2

ACCESSION NR: AP4012182

S/0191/64/000/002/0000/0008

AUTHOR: Usmanova, N. F.; Golubeva, A. V.; Bulatova, V. M.;  
Sivograkova, K. A.

TITLE: Styrene copolymer SAM

SOURCE: Plasticheskiye massy\*, no. 2, 1964, 7-8

TOPIC TAGS: SAM styrene copolymer, physical mechanical property,  
dielectric property, thermal stability, injection molding, compression  
molding, styrene copolymer

ABSTRACT: A study of the physicomachanical properties of copolymer  
SAM shows that this plastic, in comparison with styrene, has better  
heat stability (by about 25°) and maintains the other physicomachani-  
cal properties of styrene. Copolymer SAM has high dielectric proper-  
ties over an extended time and temperature interval. It may be  
processed by regular methods applicable to thermoplastics. The con-  
ditions for injection molding, extruding, and compression molding  
copolymer SAM are presented. "Investigation of the dielectric prop-  
erties of the copolymer was conducted by Candidate of physical and  
Cord 1/2

ACCESSION NR: AP4012182

mathematical sciences, B. I. Sazhin, whom we thank." Orig. art.  
has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: MT

NO REF SOV: 000

OTHER: 000

Card 2/2

**"APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000515910016-3**

**APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000515910016-3"**

L 8498-66 (A) EMT(m)/EMP(j)/EMP(t)/EMP(b) JD/RM

ACC NR: AP5028478 SOURCE CODE: UR/0286/65/000/020/0064/0064

AUTHORS: Ardy, D. I.; Kamenetskiy, I. Ya.; Smirnova, A. F.; Sergeyeva, A. A.;  
Ponomareva, V. M.; Golubeva, A. V.; Luk'yanov, N. P.; Yermolina, Ye. M.; Sivograkova,  
K. A.; Kinter, I. P.; Shalina, V. P.

ORG: none

TITLE: Surfacing for metallic and reinforced concrete decks. Class 39, No. 175643  
/announced by Organization of the State Committee on Ship Construction USSR  
(Organizatsiya gosudarstvennogo komiteta po sudostroyeniyu SSSR)/

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 64

TOPIC TAGS: polymer, copolymer, rubber, mineral filler, pigment, metal surfacing,  
reinforced concrete, ship component, SYNTHETIC RUBBER

ABSTRACT: This Author Certificate presents a surfacing material for metallic and  
reinforced concrete decks. The surfacing material is based on a binding polymer  
and on mineral fillers and pigments. To increase its resistance to abrasion and  
corrosion and to reduce its slipperiness, a copolymer of styrole with nitrylacrylic  
acid and with butylacrylic rubber is used as the binding polymer.

SUB CODE: 11/ SUBM DATE: 12Mar64

UDC: 678.746.2-139.678.046.3 678.047

L 46259-66 ENT(m)/T/ENT(i) - IJP(c) WW/RM/JWD  
ACC NR: AP6030603 (A,N) SOURCE CODE: UR/0413/66/000/016/0092/0092

INVENTOR: Golubeva, A. V.; Yaremina, Ye. N.; Sivograkova, K. A.;  
Bazborodko, G. L.; Kitner, I. P.; Shashina, V. P.

ORG: none

TITLE: Preparative method for styrene-acrylonitrile copolymers.  
Class 39, No. 185055

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16,  
1966, 92

TOPIC TAGS: styrene, acrylonitrile, copolymer, suspension copolymeriza-  
tion, nitrile rubber, impact resistant material

ABSTRACT: An Author Certificate has been issued for a method for  
preparing styrene-acrylonitrile copolymers. To impart impact resistance  
to the plasticized product, the monomers are copolymerized in suspension  
in the presence of 3-10% nitrile rubber. [B0]

SUB CODE: 11/ SUBM DATE: 13Apr62/

Card 1/1 mjs

UDC: 678.746.22-139



L 01804-67 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6030604 (4N) SOURCE CODE: UR/0413/66/000/016/0092/0093

3/  
B

INVENTOR: Golubeva, A. V.; Yeremina, Ye. N.; Sivograkova, K. A.;  
Bezborodko, G. L.; Kitner, I. P.; Shishina, V. P.

ORG: none

TITLE: Method of obtaining shock-resistant plasticized rubber. Class 39,  
No. 185056

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966,  
92-93

TOPIC TAGS: butadiene styrene rubber, copolymerization, rubber, plasticized  
rubber

ABSTRACT: An Author Certificate has been issued for a method of obtaining a  
shock-resistant plasticized rubber from a styrene copolymer, acrylnitrile, and  
butadieneacrylnitrile rubber by means of suspension copolymerization of the proper  
monomers and rubber. To increase the light stability and heat resistance of  
plasticized rubber, the process is carried out in the presence of butylacrylate  
rubber, which is taken in amounts of 2—5%. [Translation] [NT]

1/1 SUB CODE: 11/ SUBM DATE: 13Apr62/ UDC: 678.746.22-139

Card

L 01804-67 ENT(m)/EWP(j) IJP(c) RM

ACC NR: AP6030604 (AN) SOURCE CODE: UR/0413/66/000/016/0092/0093

3/  
B

INVENTOR: Golubeva, A. V.; Yeremina, Ye. N.; Sivograkova, K. A.;  
Bezborodko, G. L.; Kitner, I. P.; Shishina, V. P.

ORG: none

TITLE: Method of obtaining shock-resistant plasticized rubber. Class 39,  
No. 185056

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966,  
92-93

TOPIC TAGS: butadiene styrene rubber, copolymerization, rubber, plasticized  
rubber

ABSTRACT: An Author Certificate has been issued for a method of obtaining a  
shock-resistant plasticized rubber from a styrene copolymer, acrylnitrile, and  
butadieneacrylnitrile rubber by means of suspension copolymerization of the proper  
monomers and rubber. To increase the light stability and heat resistance of  
plasticized rubber, the process is carried out in the presence of butylacrylate  
rubber, which is taken in amounts of 2-5%. [Translation] [NT]

Card 1/1 SUB CODE: 11/ SUBM DATE: 13Apr62/ UDC: 678.746.22-139

SOKOLOV, Yevgeniy Nikolayevich; GOLUBOVA, M.A., red.; VORONTSOVA, L.M.,  
tekhn. red.

[Perception and the conditioned reflex] Vospriyatie i uslovnyi  
refleks. [Moskva] Izd-vo Mosk. univ., 1958. 330 p. (MIRA 11:9)  
(CONDITIONED RESPONSE) (PERCEPTION)

VORONIN, L.G., red.; LEONT'YEV, A.N., red.; LURIYA, A.R., red.; SOKOLOV, Ye.N., red.; VINOGRADOVA, O.S., red.; GOLUBEVA, E.A., red.; TARASOVA, V.V., tekhn.red.

[Orientation reflex and exploratory behavior] Orientirovochnyi refleks i orientirovochno-issledovatel'skaya deiatel'nost'. Moskva, Izd-vo Akad.pedagog.nauk RSFSR, 1958. 350 p. (MIRA 12:2)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. 2. Moskovskiy gosudarstvennyy universitet, Institut defektologii Akademii pedagogicheskikh nauk RSFSR (for Sokolov). 3. Institut defektologii Akademii pedagogicheskikh nauk RSFSR, Moskva (for Vinogradova).  
(REFLEXES) (ORIENTATION)

PETROV, A.D.; VDOVIN, V.M.; GOLUBEVA, G.; PUSHCHEVAYA, K.S.

Organosilicon compounds with hydrocarbon bridges between  
silicon atoms. Part 4: Pyrolysis of  $\alpha,\omega$ -disilalkanes. Zhur.  
ob.khim. 31 no.10:3230-3234 0 '61. (MIRA 14:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Silicon organic compounds)

**"APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000515910016-3**

**APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000515910016-3"**

KOST, A.N.; GRANDBERG, I.I.; GOLUBEVA, G.A.

Reactions of hydrazine derivatives. Part 8. Cyclization of  
aldazines by alkyl halides. Zhur.ob.khim. 26 no.9:2604-2607  
S '56. (MLRA 9:11)

1. Moskovskiy gosudarstvennyy universitet.  
(Aazines) (Cyclization) (Alkyl halides)

5.3610

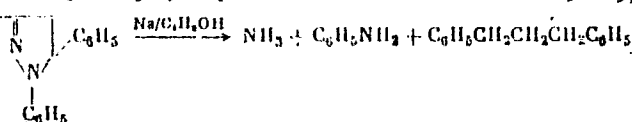
77877  
SOV/79-30-2-28/78

AUTHORS: Kost, A. N., Golubeva, G. A.

TITLES: Reactions of Hydrazine Derivatives. XXVII. Concerning the Reduction and Alkylation of Pyrazolines

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 494-49  
pp 494-497 (USSR)

ABSTRACT: Zn with HCl, organomagnesium compounds (methylmagnesium iodide, allylmagnesium bromide, benzylmagnesium bromide) and metallic sodium in butyl or ethyl alcohol, do not reduce 3,5,5-trimethyl-1-phenylpyrazoline. However, metallic sodium in butyl alcohol reacts with 1,3,5-trimethyl-1-phenylpyrazoline (I) forming anilin (56.5% yield) Analogously, from 1,3,5-triphenylpyrazoline, 1,3-diphenylpropane was obtained in 56.5% yield.



Card 1/5

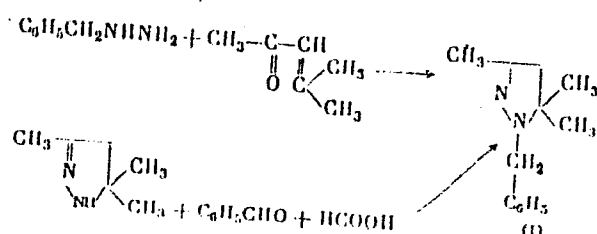


Reactions of Hydrazine Derivatives.  
XXVII. Concerning the Reduction  
and Alkylation of Pyrazolines

77877

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SOV/79-30-2-28/78

3,3,5-Trimethyl-1-formylpyrazoline in the presence of excess anhydrous formic acid, isobutyric and isovaleric aldehydes, and cyclopentanone, not undergo the Leuckhart reaction. The attempt to alkylate 4,4-dimethyl-5-isopropylpyrazoline with the above aldehydes was also unsuccessful. However, benzaldehyde reacts with 3,5,5-trimethylpyrazoline, forming 3,5,5-trimethyl-1-benzylpyrazoline (I), in 30% yield. There are 11 references, 6 Soviet, 1 Italian, 3 German, 1 Japanese.



Card 2/5

The following compounds were similarly prepared:

77877 507/79-30-2-28/78

	Compound	Reacted with	Product	Yield in %	bp/pr in mm	$n_D^{20}$	$d_4^{20}$
1	1-formyl- -5-methyl -3,5-di- ethylpyra- zoline	benzaldehyde and HCOOH	methyl-3, 5-diethyl- -1-benzyl- pyrazoline	31	161-164/16	1.5251	0.9820
2	1-formyl- 4-isopro- pyl-5-iso- butylpyra- zoline	benzaldehyde	4-isopro- pyl-5-iso- butyl-1- -benzyl- pyrazo- line	39	182-185/13	1.5110	0.9488
3	1-formyl- -4,4-di- methyl-5- -isopropyl- pyrazoline	benzaldehyde	4,4-di- methyl- -5-isopro- pyl-1- benzylpyra- zoline	59	151-152/18	1.5092	0.9563

Card 3/5

The following compounds were similarly prepared:

77877 SOV/79-30-2-28/78							
	Compound	Reacted with	Product	Yield in %	bp/pr	$n_D^{20}$	$d_4^{20}$
4	1-formyl- -4-ethyl- -5-propyl-- pyrazoline	benzaldehyde	4-ethyl-5- -propyl- -1-benzyl- pyrazoline	33	164-168/17	1.5089	0.9607
5	1-formyl- -4,4-di- methyl- -5-iso- propyl- pyrazo- line	cumaldehyde	4,4-di- methyl-5- -isopropyl- -1-p-iso- propylben- zylpyrazo- line	49.6	159-162/8	1.5089	0.9436
6	1-formyl- -3,5,5-tri- methylpyra- zoline	cumaldehyde	3,3,5-tri- methyl-1-p- -isopropyl- benzylpyra- zoline	48.7	157-158/7	1.5212	0.9634

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Reactions of Hydrazine Derivatives.  
XXVII. Concerning the Reduction  
and Alkylation of Pyrazolines

77877  
SOV/79-30-2-28/78

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy  
universitet)  
SUBMITTED: January 23, 1959

Card 5/5

15.8170

27905

S/079/61/031/010/005/010  
D227/D303

AUTHORS: Petrov, A.D., Vdovin, V.M., Golubeva, G., and  
Pushchevaya, K.S.

TITLE: Organosilicon compounds with hydrocarbon bridges  
between silicon atoms. IV. Pyrolysis of  $\alpha, \omega$  -  
disilalkanes

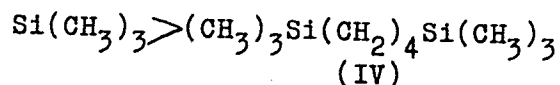
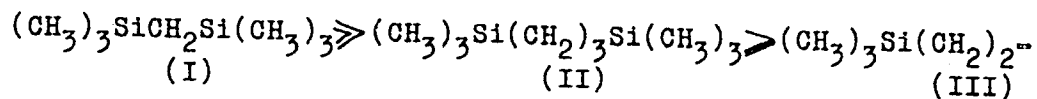
PERIODICAL: Zhurnal obshchey khimii v. 31, no. 10, 1961,  
3230-3234

TEXT: In the present work the authors studied the pyrolysis of  
 $\alpha, \omega$  - disilalkanes of the type  $R_3Si(CH_2)_n SiR_3$  where R is Cl or  
 $CH_3$  and  $n = 1$  to 4, at  $600^\circ C$  in a continuous flow system. The  
thermal stability of these compounds was determined by the quan-  
tity of 1) Gaseous and low boiling products; 2) Heavy residues;  
3) Gases evolved. The decreasing order of stability of the in-  
vestigated  $\alpha, \omega$  - hexamethyldisilalkanes is as follows: X

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Organosilicon compounds ...

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and the results of pyrolysis are represented in Table 1 where A is the weight % of gaseous and low boiling product and is calcu-

lated from  $\frac{M_1 - M_2}{M_1 - 1}$ ,  $M_1$  = weight of the original disilalkane,  $M_2$  =

weight of pyrolysis products after distillation of low boiling products, B is the volume of gas (at  $20 \pm 2^\circ\text{C}$ ) in ml. per 0.1 g. mol. of disilalkane at a given flow rate; and C is weight % of high boiling residues. Experimental procedure: The pyrolysis was carried out in a quartz tube heated to  $600 \pm 5^\circ\text{C}$  and the products

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D227/D303

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collected in a trap cooled to  $-10$  to  $-15^{\circ}\text{C}$ . Fractionation of products was done using a column with 20 theoretical plates and the fractions obtained were analyzed spectrometrically. Compound I gave gaseous products consisting of 93.9%  $\text{H}_2$  and 6.1%  $\text{CH}_4$ ; compound III yielded 13.5%  $\text{CH}_2 = \text{CHSi}(\text{CH}_3)_3$  b.pt  $54-55^{\circ}\text{C}$ , low boiling products mainly  $(\text{CH}_3)_3\text{SiH}$  and  $(\text{CH}_3)_4\text{Si}$  and gases  $\text{H}_2$ ,  $\text{CH}_4$ ,  $\text{C}_2\text{H}_6$  and  $\text{C}_2\text{H}_4$ . Compound II decomposed into  $(\text{CH}_3)_3\text{SiH}$  and  $\text{Si}(\text{CH}_3)_4$  and also  $(\text{CH}_3)_3\text{SiCH} = \text{CH}_2$ , with  $\text{H}_2$ ,  $\text{CH}_4$ ,  $\text{C}_2\text{H}_6$ ,  $\text{C}_2\text{H}_4$  and  $\text{C}_3\text{H}_6$ . Compound IV gave a fraction, b.pt  $0-53^{\circ}\text{C}$ , containing  $(\text{CH}_3)_3\text{SiCH}_2\text{CH} = \text{CH}_2$  and  $(\text{CH}_3)_3\text{SiCH}_2\text{CH} = \text{CH}_2$ ; also gaseous products as above.  $\text{Cl}_3\text{SiCH}_2\text{CH}_2\text{SiCl}_3$  decomposed into  $\text{HSiCl}_3$ ,  $\text{SiCl}_4$  and a mixture of  $\text{CH}_2 = \text{CHSiCl}_3$  and  $\text{CH}_3\text{CH}_2\text{SiCl}_3$ . Compound  $\text{Cl}_2(\text{CH}_3)\text{SiCH}_2\text{CH}_2\text{Si}(\text{CH}_3)\text{Cl}_2$  yielded beside  $\text{CH}_3\text{SiCl}_2\text{H}$  and  $\text{CH}_3\text{SiCl}_3$  a mixture

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X

Organosilicon compounds ...

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composed of  $\text{CH} = \text{CHSi}(\text{CH}_3)\text{Cl}_2$  and  $\text{CH}_3\text{CH}_2\text{Si}(\text{CH}_3)\text{Cl}_2$ . The formation of  $(\text{CH}_3)_3\text{SiH}$  during the pyrolysis of II, and  $\text{Cl}_3\text{SiH}$  and  $\text{CH}_2 = \text{CHCH}_2\text{SiCl}_3$  during the pyrolysis of VII ( $\text{Cl}_3\text{SiCH}_2\text{CH}_2\text{CH}_2\text{SiCl}_3$ ) indicates breaking of the Si-C bond in the disilpropane chain. At the same time, separation of  $\text{CH}_2 = \text{CHSi}(\text{CH}_3)_3$  from products of pyrolysis of II, and  $\text{Cl}_3\text{SiCH}_3$  and  $\text{CH}_2 = \text{CHSiCl}_3$  from VII is due only to the breaking of C-C bond in the bridging groups. It may be said that under the action of high temperatures  $\text{Si}(\text{CH}_2)_n\text{Si}$  ( $n \geq 2$ ) decomposes along Si-C as well as C-C bonds. There are 1 figure, 1 table and 16 references: 6 Soviet-bloc and 10 non-Soviet-bloc. The 4 most recent references to English-language publications read as follows: M. Kumada et alia, J. Org. Chem. 23, 252 (1958); K. Shijna, M. Kumada, J. Org. Chem. 23, 139 (1958); A.I. Barry et alia incl. a. End. Chem. 51, 131 (1959); P.D. George et alia, Chem. Revs. 56, 1074, 1075, 1077 (1956).

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Organosilicon compounds ...

S/079/61/031/010/005/010  
D227/D303

ASSOCIATION: Institut organicheskoy khimii im. N.D. Selinskogo  
Akademii nauk SSSR (Institute of Organic Chemistry  
im. N.D. Selinskiy, Academy of Sciences USSR)

SUBMITTED: September 30, 1960

Card 5/6

KOST, A.N.; GOLUBEVA, G.A.; STEPANOV, R.G.

Reactions of hydrazine derivatives. Part 31: Synthesis of 1,3-diamines by the hydrogenolysis of pyrazolines. Zhur.ob.khim. 32 no.7:2240-2244 J1 '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet.  
(Amines) (Pyrazoline) (Hydrogenolysis)

KOST, A.N.; GOLUBEVA, G.A.; TERENT'YEV, A.P.; GRANDBERG, I.I.

Splitting of the pyrazoline cycle with breaking of the nitrogen-nitrogen bond. Dokl.AN SSSR 144 no.2:359-362 My '62.

(MIRA 15:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonsova.
2. Chlen-korrespondent AN SSSR (for Terent'yev).  
(Pyrazoline)

S/079/63/033/001/015/023  
D205/D307

AUTHORS: Grandberg, I. I. and Golubeva, G. A.

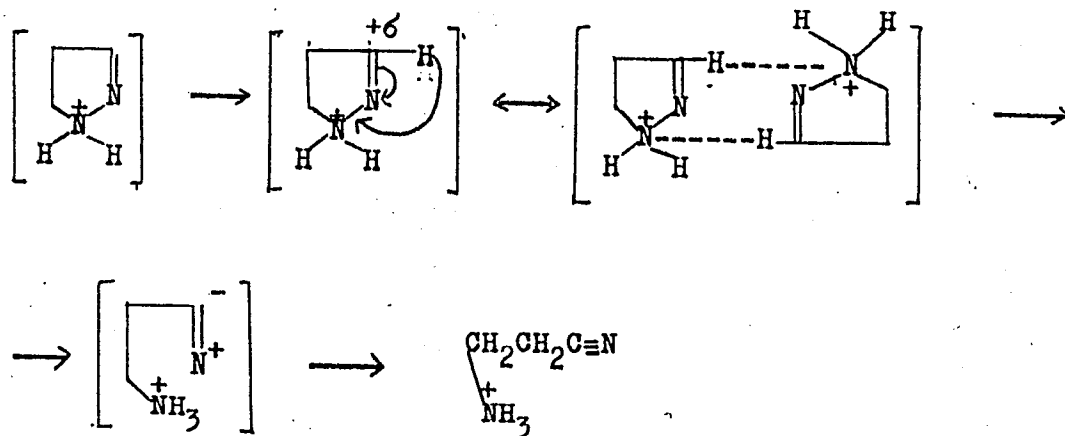
TITLE: Reactions of hydrazine derivatives. XXXV. A new type of pyrazoline rearrangement, with opening of the ring

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 1, 1963, 244-247

TEXT: The present paper is a continuation of earlier work (ZhOKh, 32, 651, (1962)), in which 4-ethyl-5-propyl pyrazoline was observed to rearrange into  $\alpha$ -ethyl- $\beta$ -propyl- $\beta$ -aminopropionitrile, and is aimed at a more detailed study of this new rearrangement. It was found that pyrazolines unsubstituted in position 3, such as 4-ethyl-5-propyl- (I), 4-iso-propyl-5-iso-butyl- (II), and 4,4-dimethyl-5-iso-propyl- (III) pyrazolines, undergo this rearrangement when their hydrochlorides are heated to 210 - 260°C, to the corresponding  $\beta$ -aminonitriles. The reaction is thought to be the result of a redistribution of the electron density, followed by ring opening:

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S/079/63/033/001/015/023



The presence of amino and nitrile groups in the products was confirmed by ir spectroscopy. Further work is in progress.

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Reactions of hydrazine ...

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D205/D307

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V.  
Lomonosova (Moscow State University imeni M. V. Lo-  
monosov)

SUBMITTED: January 2, 1962

Card 3/3

S/079/63/033/001/016/023  
D205/D307

AUTHORS: Kost, A. N. and Golubeva, G. A.

TITLE: Reactions of hydrazine derivatives. XXXVI. Hydrogenation of 1-acylpyrazolines and preparation of pyrazolidines

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 1, 1963, 248-252

TEXT: Continuation of earlier work (ZhOKh, 30, 494 (1960); DAN SSSR, 129, 1300 (1959); ZhOKh, 32, 2420 (1962)). Hydrogenation of 1-acetyl-3,5,5-trimethylpyrazoline in acetic anhydride at 150°C, in a steel autoclave at 100 atm, over skeletal Ni, for 5 hours, gave 1,2-diacetyl-3,5,5-trimethylpyrazolidine (I), in 59% yield, which on boiling with conc. HCl gave 3,5,5-trimethylpyrazolidine (II), in 61% yield. 1-acetyl-5-phenylpyrazoline was analogously hydrogenated to 1,2-diacetyl-3-phenylpyrazolidine (III), in 68% yield. 1-thiocarbamido-(-4-ethyl5lpropyl, -4-iso-propyl-5-iso-butyl, -3,5,5-trimethyl, and -3-methyl-5-phenyl) pyrazolines were made (to facilitate identification of pyrazolines) in 46 - 63%

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Reactions of hydrazine ...

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D205/D307

yields, by adding 3 moles of KCNS to 1 mole of pyrazoline in glacial acetic acid, boiling till the solids dissolved, cooling, pouring into water and making alkaline with KOH. 3,5,5-trimethylpyrazoline was reduced with Na in *n*-BuOH, over 2 hours at 170°C, to give a 35% yield of compound II. The hydrogenation of 3,4-tetramethylene-5,5-pentamethylenepyrazoline at 150°C and 100 atm, in anhydrous MeOH, over skeletal Ni, proceeded anomalously with fission of C-C and N-N bonds, giving cyclohexylamine. There is 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 4, 1962

Card 2/2



TRYAPKIN, Andrey Ivanovich; GOLUBEVA, G.I., red.; TRUSOV, N.S.,  
tekhn. red.

[Production and reclaiming of wiping materials] Vyrabotka i  
regeneratsiia obtirochnykh materialov. Moskva, Gosmestprom-  
izdat, 1962. 145 p. (MIRA 16:4)  
(Wiping cloths) (Fibers)

GOLUBEVA, G. P., RYABCHENKO, N. I., SOKOLOVA, T. D., TSEYPLIN, P. I., SPITKOVSKI,  
D. M., USAKOVSKAYA, T. S. (USSR).

Structural Lability of Deoxyribonucleic Acids and Deoxyribonucleoproteins as a  
function of their Molecular Morphology.

report presented at the 5th Int'l.  
Biochemistry Congress, Moscow, 10-16 Aug. 1961

GOLUBEVA, G. P.; SPITKOVSKIY, D. M.; TSEYTLIN, P. I.

Some common features in the mechanisms of action of ionizing radiation and heat on deoxyribonucleic acid. Radiobiologiya 2 no.3:362-364 '62. (MIRA 15:7)

1. Institut eksperimental'noy biologii AMN SSSR, Moskva.

(NUCLEIC ACIDS) (RADIATION--PHYSIOLOGICAL EFFECT)  
(HEAT--PHYSIOLOGICAL EFFECT)

KHUDYY, Yu.; GUROVA, Ye.; GOLUBEVA, I.

Electric anesthesia. Nauka i zhizn' 23 no.11:63 N '56. (MLBA 9:11)  
(Electric anesthesia)